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Fecal Pellets in Effluent-Affected Sediment on the Palos Verdes Margin (abstract from poster): EOS Trans. AGU, 76(3), Ocean Sciences Meeting Supplement OS1, 1996.

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Large sewage-industrial discharges from the outfalls of the Los Angeles County Sanitation Districts (LACSD) onto the Palos Verde shelf since 1937 have produced an effluent-affected sediment deposit characterized by low bulk density, elevated organic matter content, and a high content of fine silt and clay particles relative to underlying native sands and sandy silts. Results of grain size analyses using a gentle wet sieving technique to help preserve grain aggregates show that a high percentage (up to 50%) of the fine silt and clay fractions of the effluent-affected mud has been incorporated into oval aggregates with intermediate diameters in the fine to medium sand size range (63-500 microns).

Settling rates, grain densities and the distribution of organic carbon and *p,p*'-DDE versus grain size were determined. Pellet densities ranged from 1.2 to 1.5 gm/cc and settling rates were reduced the equivalent of one phi size relative to quartz of the same average size. Repackaging of the fine silt and clay sized grains into sand-sized fecal pellets causes an effective settling rate increase of 2-3 orders of magnitude for the fine particle fraction. Concentrations of organic carbon and *p,p*'-DDE exhibit a bimodal distribution with a peak in the finest size fraction as expected, and a peak associated with the fecal pellets. The implications of the these results on sedimentation rates, transport during storms and on the loss of *p,p'*-DDE through desorption during resuspension will be discussed.

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